

U.S.S.N. 10,810,912

Claim Amendments

Please amend claims 1-5, and 7-13 as follows:

Please cancel claims 6, 14, 17, and 19 as follows:

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Listing of Claims

1. (currently amended) A method of seasoning a process chamber having interior surfaces to reduce the formation of silicon residues on said interior surfaces in a subsequent silicon plasma deposition process, comprising the steps of:

cleaning said process chamber according to a cleaning process comprising a chlorine containing etchant to remove silicon residues from said chamber; and

providing a seasoning film selected from the group consisting of silicon nitride, silicon carbide, and silicon dioxide on said interior surfaces of said process chamber comprising introducing precursor gases selected from the group consisting of silane ~~and an oxygen-containing gas,~~ dichlorosilane, and trimethylsilane ~~and a nitrogen-containing gas,~~ into said process chamber at a pressure of from about 10 Torr to about 760 Torr.

2. (currently amended)) The method of claim 1 wherein said seasoning film comprises silicon dioxide and said precursor gases

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comprise said silane and further comprises an ~~said~~ oxygen
containing-gas.

3. (currently amended) The method of claim 1 wherein said
seasoning film comprises silicon nitride and said precursor gases
comprise said dichlorosilane and ~~said nitrogen containing gas~~
further comprises ammonia (NH₃).

4. (currently amended) The method of claim 1 wherein said
seasoning film comprises silicon carbide and said precursor gases
comprise trimethyl silane and ~~said carbon containing gas~~ further
comprises carbon dioxide (CO₂).

5. (currently amended)) A method of seasoning a chemical vapor
deposition chamber having interior surfaces and a gas
distribution plate to reduce the formation of silicon residues on
said interior surfaces and said gas distribution plate in a
subsequent silicon plasma deposition process, comprising the
steps of:

cleaning said chamber according to a cleaning process
comprising a chlorine containing etchant gas to remove silicon

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residues from said chamber; and

providing a seasoning film selected from the group consisting of silicon nitride, silicon carbide, and silicon dioxide having a thickness of from about 2 μm to about 10 μm on said interior surfaces and said gas distribution plate of said chamber comprising introducing precursor gases selected from the group consisting of silane ~~and an oxygen-containing gas,~~ dichlorosilane ~~and a nitrogen-containing gas,~~ and trimethylsilane ~~and a carbon-containing gas~~ into said process chamber at a chamber pressure of from about 10 Torr to about 760 Torr at a temperature from about 500 degrees C to about 700 degrees C.

6. (canceled)

7. (currently amended) The method of claim 5 wherein said seasoning film comprises silicon dioxide and said precursor gases comprise said silane and further comprises an ~~said oxygen containing-gas.~~

8. (currently amended) The method of claim 5 wherein said seasoning film comprises silicon nitride and said precursor gases

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comprise said dichlorosilane and ~~said nitrogen-containing gas~~
further comprises ammonia (NH₃).

9. (currently amended) The method of claim 5 wherein said seasoning film comprises silicon carbide and said precursor gases comprise said trimethylsilane and ~~said carbon-containing gas~~
further comprises carbon dioxide (CO₂).

10. (currently amended) A method of seasoning a chemical vapor deposition chamber having interior surfaces and a gas distribution plate to reduce the formation of silicon residues on said interior surfaces and said gas distribution plate in a subsequent silicon plasma deposition process, comprising the steps of:

cleaning said chamber according to a cleaning process comprising a chlorine containing etchant gas to remove silicon residues from said chamber; and

providing a seasoning film selected from the group consisting of silicon nitride, silicon carbide, and silicon dioxide having a thickness of from about 2 μm to about 10 μm on

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said interior surfaces and said gas distribution plate of said chamber comprising introducing precursor gases selected from the group consisting of silane ~~and an oxygen-containing gas,~~ dichlorosilane ~~and a nitrogen-containing gas,~~ and trimethylsilane ~~and a carbon-containing gas~~ into said process chamber at a chamber pressure of from about 10 Torr to about 760 Torr at a temperature from about 500 degrees C to about 700 degrees C and a process time of from about 0.5 minutes to about 10 minutes.

11. (currently amended) The method of claim 10 wherein said seasoning film comprises silicon dioxide and said precursor gases comprise said silane and further comprises an said oxygen containing-gas.

12. (currently amended) The method of claim 10 wherein said seasoning film comprises silicon nitride and said precursor gases comprise said dichlorosilane and ~~said nitrogen-containing gas~~ further comprises ammonia (NH₃).

13. (currently amended) The method of claim 5 wherein said seasoning film comprises silicon carbide and said precursor gases comprise said trimethylsilane and ~~said carbon-containing gas~~

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further comprises carbon dioxide (CO₂).

14. (canceled)

15. (previously presented) The method of claim 1, further comprising the step of depositing a silicon layer on a substrate within said chamber according to a plasma deposition process.

16. (previously presented) The method of claim 15, wherein said silicon comprises amorphous silicon.

17. (canceled)

18. (previously presented) The method of claim 5, further comprising the step of depositing a silicon layer on a substrate within said chamber according to a plasma deposition process.

19. (canceled)

20. (previously presented) The method of claim 10, further comprising the step of depositing a silicon layer on a substrate within said chamber according to a plasma deposition process.